PERCEPTIONS OF COCOA FARMERS AND EXTENSION AGENTS IN NIGERIA CONCERNING PRODUCTION PRACTICES WITH IMPLICATIONS FOR MUTUAL WORKING RELATIONSHIPS

By

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TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	1
	Location and History of the State	3
	Statement of the Problem	7
	Purpose of the Study	7
	Objectives of the Study	8
	Limitations of the Study	8
	Scope of the Study	9
	Definitions	9
II.	REVIEW OF LITERATURE	11
	The Role of Agricultural Extension Agent	11
	Relationships Between Agricultural Extension Agents and Cocoa Farmers	15
	Summary	19
III.	DESIGN AND CONDUCT OF THE STUDY	20
	Introduction	20
	Area of Study	20
	Population of Study	20
	Development of Survey Instrument	22
	Pre-testing the Questionnaire	22
	Collection of Data	23
	Analysis of the Data	24
IV.	PRESENTATION AND ANALYSIS OF THE DATA	27
	Introduction	27
	Population of Study	27
	Findings of the Study	29
	Personal and Demographic Data of Respondents	29
	Extent of Contact Between Cocoa Farmers and Agricultural Extension Staff	32
	Training Needs of Farmers	37
	The Extent to Which Agricultural Extension Personnel can be Helpful as Characterized by the Farmers	41
V.	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	58
	The Purpose of the Study	58

Chapter Page

Objectives of the Study 58
Summary of the Study 59
Summary of the Findings 60
Personal and Demographic Data of Respondents . . 60
Extent of Contact Between Cocoa Farmers and Agricultural Extension Staff 61
Training Needs of Cocoa Farmers 61
The Extent to Which Agricultural Extension Staff can be Helpful as Characterized by the Cocoa Farmers 64
Conclusions 67
Personal and Demographic Data 67
Conclusion Concerning Extent of Contact Between Cocoa Farmers and Agricultural Extension Staff 68
Conclusion Concerning Training Needs of Farmers . . . 69
Conclusions Concerning the Extent to Which Agricultural Extension Workers can be Characterized as Being Helpful to Farmers 69
Recommendations 71

A SELECTED BIBLIOGRAPHY 73

APPENDIXES 75

APPENDIX A - LETTER TO THE PERMANENT SECRETARY REQUESTING FOR PERMISSION TO SURVEY THE AGRICULTURAL EXTENSION STAFF 76

APPENDIX B - LETTER TO FARMERS 78

APPENDIX C - LETTER TO AGRICULTURAL EXTENSION STAFF . . . 80

APPENDIX D - STUDY INSTRUMENT 82

LIST OF TABLES

Table		Page
I.	Distribution of the Survey Instruments to Respondents . .	23
II.	Absolute Terms Arranged in a "Likert-Type" Scale	25
III.	Summary of Cocoa Farmers from Selected Villages Participating in the Study	28
IV.	Summary of Agricultural Extension Staff Personnel Participating in the Study	28
V.	Summary of "Ikom Farmer's" Responses Based on Sex, Age, and Marital Status	30
VI.	Summary of Agricultural Extension Personnel Responses Based on Sex, Age, Marital Status and Years of Service	31
VII.	Summmary of Educational Level and Frequency of "In-Service" Training Desired as Reported by the Agricultural Extension Staff	33
VIII.	Summary of Agricultural Extension Staff Responses as to the Number and Frequency of Contact with the Farmers .	34
IX.	Summary of Extension "Agent" Responses Relating to Frequency of Farm Visits, "Farmer Responses" and Perceived "Farmer Skills"	35
X.	Summary of Extension "Agent" Responses as to the Major Factors Influencing Their Selection of Farmers to Whom They Give Assistance	36
XI.	Summary of Extension "Agent" Responces Regarding Their Advice to Farmers Concerning Other "Business Areas" in Addition to Cocoa Farming	38
XII.	Summary of Present Training Needs of Cocoa Farmers for Selected Production Practices as Perceived by Agricultural Extension's Personnel	39

Table		Page
XIII.	Summary of Future Training Needs of Cocoa Farmers for Selected Production Practices as Perceived by Agricultural Extension Personnel	42
XIV.	Summary of Cocoa Farm Responses as to the Helpfulness of Agricultural Extension Personnel Concerning Selected Production Problems	45
XV.	Summary of Farmer's Responses by Village as to Frequency and use of Production Practices Recommended by Extension Personnel	47
XVI.	Summary of Farmer's Responses by Village as to the Frequency of Information Received from Various Sources regarding Cocoa Farming	48
XVII.	Summary of Farmer's Responses by Village as to Sources of Information in Regard to Improved Practices	50
XVIII.	Summary of 1980 Cocoa Yields by Village as Reported by Farmers	51
XIX.	Summary of Farmer's Responses as to the Number of Agricultural Extension Staff Making Visits to Their Respective Villages	52
XX.	Summary of Farmer's Responses by Villages as to Frequency with Which they Confer with Extension Personnel	53
XXI.	Summary of Farmer's Aspirations by Village as to their Frequency of Attendance at "Educational Meetings" arranged by Agricultural Extension Staff	54
XXII.	Summary of Farmers' Tendencies to Contact Extension Personnel as well as being Approachable	55
XXIII.	Summary of Farmer's Responses as the Identity of Others from Whom They Seek Assistance	56
XXIV.	Comparison of Average Response Scores Given by Agricultural Extension Staff	63
XXV.	Comparison of Responses Given by Farmers and by Extension Staff Members Regarding Selected Areas of Present Training Needs	65
XXVI.	Comparison of Response of Present Training Needs Perceived by Farmers with Those Perceived by Extension Staff as to Future Training Needs of Farmers	66

LIST OF FIGURES

Figure		Page
1.	Map of Nigeria	4
2.	Map of Cross River State Showing the Location of Ikom Division	5
3.	Map of Ikom Division (not to scale): Illustrating the Location of the Seven Villages	21

CHAPTER I

INTRODUCTION

Meeting people's basic needs of food, fiber, health, housing, education and employment should be the objective of many national governments in Africa. This "philosophy" is being espoused in many articles, speeches and conversations concerning Nigerian development.

Like "motherhood", no one can seriously quarrel with the idea. However, a vital question that haunts "authorities" in Nigeria is, where do we begin? Should we begin in the agricultural sector? Yet the profit margin of operating a farm today is really quite small. In so far as financing is concerned most farmers today are almost totally dependent on banks, other lending institutions and marketing boards. Closely related dependency is also experienced with regards to labor and transportation of produce.

However, most of these entities have in a large measure failed to meet the needs of farmers. This has created an element of instability in the agricultural economy. Because of such instability increased attention has focused upon all governmental policies associated with agriculture. It is a widely accepted axiom that government policies should encourage and provide incentives for farmers to remain in their chosen occupation.

The Rockefeller Foundation in a 1976 publication entitled "Working Papers" asserted that farmers in developing nations were more

likely to adopt new production systems provided that four conditions were met:

1. There must be more incentives available to encourage increased production.
2. Necessary inputs - fertilizer, insecticides, pesticides, seeds and credit - must be made more available to farmers at lower cost per unit.
3. The farmer must be shown the effectiveness of new production techniques and methods through the use of "extension demonstration plots on the farmer's own land or that of a neighbor.
4. Farmers need to know prior to investing in future cropping operations that there will be markets for their available products at a stable price. This is a problem for small farmers in that they cannot assume the risk of no available market (1, p. 11).

Given the complexity and magnitude of the task that lies ahead, it is inevitable that one asks is there any hope to solve this dilemma? It is the opinion of the author that the answer should be yes. A further predisposition is that the agricultural extension staff should have a working knowledge of the "challenges and opportunities" of "modern" agriculture so that they can assist both established and beginning farmers. Relationships developed between farmers and agricultural extension staff must be mutually beneficial. The purpose of this study is to investigate how such relationships may be enhanced, thus helping both parties in their endeavours to establish a viable agricultural industry in Nigeria.

Location and History of the State

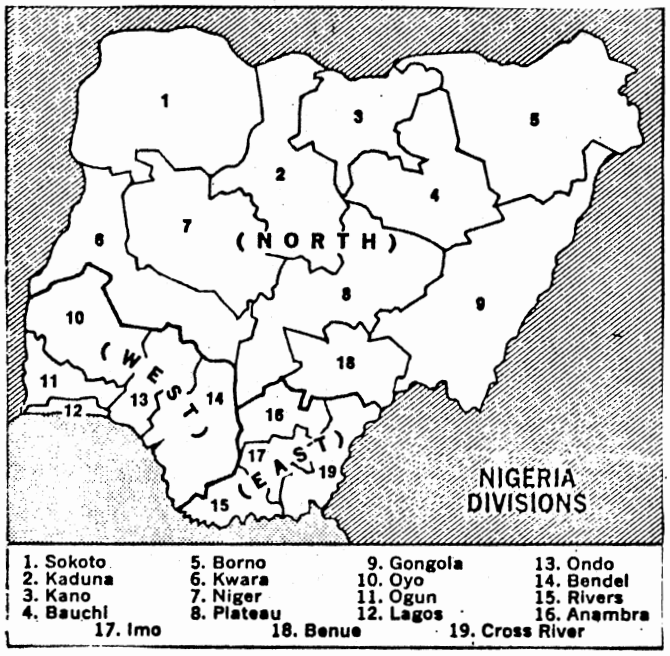
Cross River, a state of 3.6 million people (2) possesses more of the important agricultural resources than do most of the other states within the Federal Republic of Nigeria. Calabar is the state capital, and there are sixteen other major cities within the state. The state comprises an area of 11,503.2 square miles (Figure 1 and 2).

The state lies on the belt of the tropical climate, with high humidity and high temperatures. The climate of the state follows a pattern made up of two seasons described below:

1. The Wet Season begins in April and lasts through October. The peak rainfall occurs during the months of June through August.
2. The Dry Season which lasts from November through March is also the harvest season. In the early part of the season the average temperature is about $60^{o}F$, while the later part of the season the average temperature is around $95^{o}F$.

Since Cross River State is limited by these climatic conditions throughout, most of the state depends upon the growth of tropical plants. The state is divided into two zones. The following are illustrations of the zones based upon the major crops produced in the area:

1. The Northern Zone comprises Ogoja and Calabar provinces. It is famous for the production of Gmelina, teak, rubber, palm trees and cocoa. In addition, peanuts, rice, yams, cassava, plantain and corn are extensively grown in this zone.



Source: Collier's Encyclopedia, Vol. 17 Macmillan Cooperation New York, 1976 p. 539.

Figure 1. Map of Nigeria

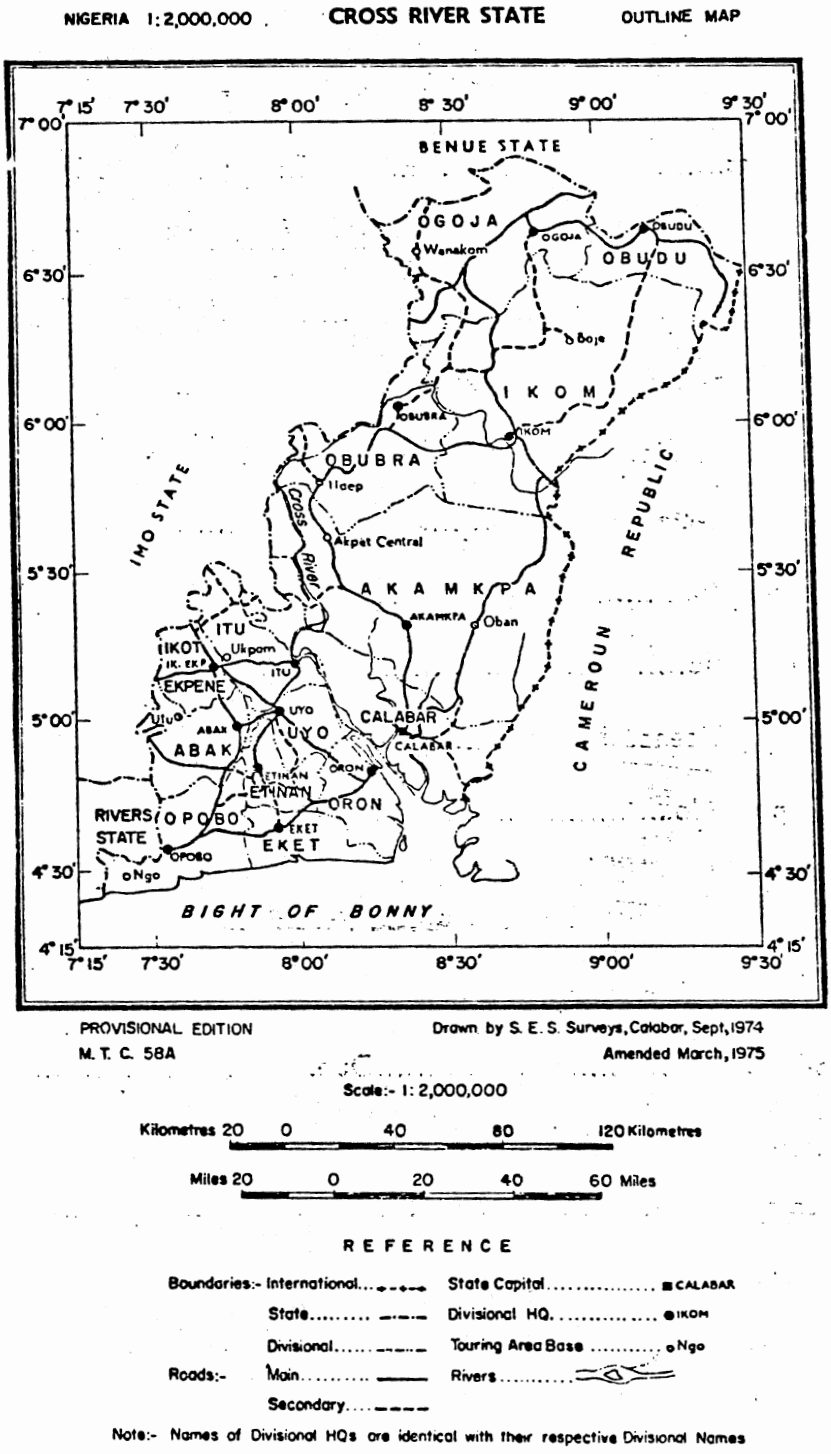


Figure 2. Map of Cross River State Showing the Location of Ikom Division

2. The Southern Zone includes both Uyo and Anang provinces. Corn, rice, palm trees, coconut, yam (anem), rubber and cassava are also produced in this zone, although to a limited extent compared to the Northern Zone.

The economy of the state prior to the oil exploration was largely dependent upon exports of agricultural products such as cocoa, rubber, palm oil and other crops. The government initiated programs such as cooperative unions, an agricultural credit system and establishment of a School of Agriculture to train intermediate level personnel in agriculture. These programs were intended to help the farm sector to increase agricultural production. Unfortunately, cocoa production has shown a steady decline since the early 70's having declined by approximately 22 percent for the 1977/78 crop year, using the 1971/72 crop year as a base year. Conversely, prices paid to producers increased by 243 percent while at the same time net farm income decreased by approximately 73.4 percent (3). This was largely due to inflation, high interest rates, increased cost of inputs, labor shortages and increased transportation rates. This in turn had an impact upon rural development and definitely increased migration to urban areas.

Therefore, it would seem highly desirable that a study of relationships which exist between cocoa farmers and agricultural extension staff at the grass root level be conducted. Such a study should be directed toward discovery of the nature and extent of relationships between these two groups, since both are interested in improving and encouraging agricultural production.

Statement of the Problem

In Nigeria as in many other developing countries, agriculture plays a vital role in the developing economy. In fact, it functions as the backbone for viable rural development and expansion of agribusiness. In spite of its importance, the Cross River State government has not been able to devise a program to coordinate the activities of the agricultural extension staff via farmers to generate increased agricultural production. This has led to deteriorating cocoa yields over the past decade.

The few programs that have been initiated have not been able to survive and penetrate the socio-cultural fibers of the people. For such programs to be successful, however, there is a need for a thorough understanding of the socio-cultural conditions under which farmers operate. Relationships that exist between the farmers and the agricultural extension staff at the village level are apparently not conducive for attainment of desired production levels. The dearth of effort to develop educational, extension and research programs in agriculture is a problem. As a result both farmers and extension staff are not reaping the benefits of a mutual working relationship.

Purpose of the Study

The major purpose of the study was to determine the perceptions of cocoa farmers and agricultural extension personnel concerning production practices with implications for mutual working relationships.

Objectives of the Study

This investigation was based on the following objectives:

1. To determine selected demographic data of respondents.
2. To determine the frequency of contacts between cocoa farmers and agricultural extension staff.
3. To determine perceptions of agricultural extension staff as to present and future training needs of farmers.
4. To determine cocoa farmer's perceptions of the nature and extent of present benefits resulting from the agricultural extension programs, particularly field visits made by agricultural extension staff.

Limitations of the Study

Some limitations that were recognized by the researcher included the following:

1. Ikom was the only division that was represented in Cross River State for this study.
2. The sample was limited to cocoa farmers and agricultural extension staff in Ikom, Abia, Ajassor, Etomi, Irruan, Akparabong and Bendeghe Ekiem in Ikom divison of the Cross River State of Nigeria.
3. The data are gathered only from residents of the community.

Scope of the Study

The scope of this study includes:

1. The study will deal with only perceptions toward selected areas of cocoa farming.
2. The study will utilize an instrument which can be mailed.
3. The study will utilize a representative sample of the cocoa farming population.

Definitions

The following terms are used throughout the study and need to be defined:

1. Cocoa - Webster (4, p. 154) defines it as a "tree with small yellowish flowers followed by fleshy yellow pods with many seeds." It is used to make chocolate and cocoa butter.
2. Cocoa farming - refers to that branch of the agricultural industry dealing with the growing of cocoa for local and foreign industries.
3. Perception - Webster (4, p. 850) defines perception as "awareness of the elements or environment through physical sensation."
4. Agricultural extension - is an out-of-school system in agriculture, to bring the farmers and the technical information together to enable them to increase farm income.
5. Need - is the difference between what is, and what ought to be.

6. Licensed buying agents - refers to a group of people or agents authorized and licensed by the government to purchase produce from farmers.
7. Pan buyers - refers to a group of people who purchase cocoa from small scale farmers whose output is too small to be purchased by licensed buying agents.
8. Agricultural extension staff - is a specialist in agriculture at village, clan or divisional levels trained by the Ministry of Agriculture or through personal effort and employed by the Ministry of Agriculture to bring to farmers the basic and up-to-date knowledge of improved agricultural practices which will enable the farmers to improve and increase their agricultural production.
9. Black pod - a damaging disease that affects cocoa pods before the seed mature.
10. Cocoa plant protection - these are the different devices by which the cocoa trees are protected from wind, termite, squirrels and direct rays of the sun. Some of these protections take the form of chemical application (termites and squirrels), wind breakers (wind and direct rays of the sun).

CHAPTER II

REVIEW OF LITERATURE

In recent years few studies have been conducted concerning relationships between cocoa farmers and agricultural extension workers. This chapter will bring into focus those areas of research pertaining to the study.

The Role of Agricultural Extension Agent

Agricultural extension work occupies an indispensable position in helping the farmers adopt modern agricultural practices. In Iko division, agricultural extension work is allied with agriculture among the villagers, since the extension agent has more direct contact with the farmers than any other government representative.

Mosher (5) suggests:

> The essence of . . . extension is that it is an out-of-school educational process: working with rural people along these lines of their current interest and needs which are closely related to gaining a livelihood, improving the physical level of living, and fostering community welfare (p. 3).

According to Fay (6, p. 68), agricultural extension strives "to bring the farmer, the knowledge and help that will enable him to farm more efficiently and to increase his income." According to Penders (7, p. 16), the objectives and scope of extension are to "raise agricultural productivity, promote a higher standard of living among the rural population and enhance rural welfare."

Agricultural extension may be viewed as essentially an informal type of education, and its primary purpose is to change attitudes and practices of the rural people with whom they work. The extension service in many developing countries, as in Nigeria, consists mainly of "middle personnel" trained at local agricultural schools, to fill the technical positions in agricultural research, extension service, and agric-related industries. The importance of this level of training in agriculture in developing nations cannot be over-emphasized. Oyenuga (8) stressed the value of the training in the schools of agriculture in Nigeria when he stated:

> Nigeria will continue to bear the brunt of the agricultural development programs, well into the 1960's. The truth of the matter is we just cannot train enough degree holders in fields of agriculture to meet the needs of development (p. 292).

According to Leagan (9), needs represent an imbalance, lack of adjustment, or gap between the present situations or status quo and a new or damaged set of conditions assumed to be more desirable. Needs may be viewed as the difference between what is and what ought to be; they always imply a gap . . . what is can be determined by a study of the situation. These facts help identify needs by pointing to gaps between what is and what should be. To be adequate, such facts must be obtained that generally fall into four categories:

1. Current trends and outlook,
2. People (what they think their needs are),
3. Physical factors, and
4. Public problems and policy (pp. 42-43).

Looking at extension services, Wharton (10, p. 2) suggests that one of the needs is "development knowledge and that the process of promoting the use of this knowledge is development education."

This idea is closely related to the suggestion that:

> Extension is not solely concerned with teaching and securing the adoption of a particular improved practice, but with changing the outlook of the farmer and encouraging his initiative in improving his farm and home. The effectiveness of extension . . . is measured by its ability to change the static situation . . . into a dynamic one (p. 119).

Education is the process by which an individual through his own activity changes his behavior. Such behavioral change might be spelled out as follows according to Leagan (9):

1. Changes in knowledge or the things we know.
2. Changes in skills or the things we do.
3. Changes in attitudes or the things we feel.

> The fundamental objective of extension work is the development of people. If there are behavioral changes in individuals, attitudial changes of people are also likely to occur (p. 107).

The general objective of agricultural extension work is to help rural people to:

1. Become better farmers.
2. Become better businessmen.
3. Improve their standard of living.

To achieve these objectives, extension activities should be a two-way process. On one hand, there should be a flow of information from the educational agency to farmers receiving the information. On the other hand, there should be a continual flow of ideas, suggestions, and advice from the field to the educational institution, from the

people to the "experts." According to Williams (11, p. 79), extension workers require training in areas of social and behavioral sciences in addition to technical agriculture. He emphasized the importance of a thorough knowledge of technical subject matter in agriculture as a first basis for effectiveness in extension.

In 1959, under the heading of "Looking at ourselves in the light of these challenges," the following concepts were stated:

> Cooperating public agencies will always have an important role to perform in extension work, and as the educational arm of the U.S.D.A. and the Land Grant System, extension itself has specific responsibilities to these agencies. Other public agencies serve extension's clientele in a variety of ways. Some offer sources of credit; some provide health services. Others provide individual technical services. Still others develop and administer regulations affecting farming or agricultural marketing. Others offer grants and aids to stimulate improved farm methods (12, p. 48).

In relation to such groups, extension has four responsibilities:

1. To make sure its own people know the personnel and understand the mission of other agencies, and also fully understand their own educational responsibilities in connection with the work of other agencies.
2. To offer other agencies the opportunities to become familiar with extension personnel and programs.
3. To provide research information and other specialized help needed by other agencies.
4. To ask freely for appropriate help, advice, and service from other agencies in connection with extension projects.

Relationships Between Agricultural Extension Agents and Cocoa Farmers

Agricultural extension is confronted with the task of helping local farmers improve their farms and farming practices and thereby increase their production which in turn increase gross farm income.

Pesson (13) maintains that better programs are developed when extension personnel work in conjunction with local people because the people's needs and interests are considered in the program development. Maunder (14) stated:

> ... Extension must be carried out largely through groups and their formal or informal leaders to the rural people who are the final target. Group action programs not only multiply the effectiveness of professional extension workers, but are a means to bring about change (p. 116).

The extension agent's job is usually what he makes it. It may be one of great activity in unessential details and doing things for farmers which they should do for themselves.

Stier (15, p. 61) felt the failure of extension workers in helping farmers to improve thier farming practices had been the result of "superior-inferior" relationships that existed between extension personnel and the adult farmers.

Savite (16, p. 17) recommended extension personnel should act as friends instead of imposing their will or government policy on the farmers. He maintained that the success of extension work will to a great extent depend on how the problems of the farmer and his family are handled. He emphasized the need to organize, involve, and discuss with farmers methods of solving production and marketing problems.

Cocoa Producing Alliance (17, p. 49) recommendations in 1977 in Brazil called for short term training programs for cocoa farmers and

extension workers through closer working links between research, extension and basic services. Attention was also drawn to the need for enlisting farmer's participation in extension programs and assisting farmers by establishing the requisite supporting infrastructure.

In any farming community the various agencies that help determine the needs of the farmers must be considered. Woodhill (18, p. 41) in examining a community stated: "The agencies outside one school were not adequately meeting the needs of the people, because they were not offering a well-planned educational program."

In another study by Osuntogun (19) he stated that:

> Cocoa farmers are more cooperative and have more favorable attitudes toward the government extension services than those who produce non-export crops in the same area. Mainly because cocoa technology is more advanced in both research and extension programs (p. 32).

Petel (20) in his survey of wives of tobacco farmers from 46 villages in the Oshun and Oyo divisions of western Nigeria formulated the following conclusions:

1. Yoruba women play an important role in agriculture (physical assistance, decision making and to a small extent in supply of money to finance operations).
2. Agricultural planners must take into account the leadership role of women for the future.
3. More women extension workers are needed to teach "farm" women how to grade and pack tobacco correctly (p. 79).

Extension services must be broad in scope to enable all sections of the society to benefit from the changes that are taking place.

Bradfield (22) noted that the extension workers become the bridge between research and the farmer, imparting scientific information to the farmer, appreciating his problems, suggesting solutions or transmitting the problem to a specialist for investigation. The way the message is given to the audience is defined as the treatment. The person carrying the message is referred to as a "communicator."

Brone (21) compared the characteristics of farmers with "no contact", "low contact" and "high contact" with extension workers in Ekiti, in western Nigeria. He reported that:

> . . . farmers who had "change agent" contacts are bigger farmers, have a higher socio-economic level, and are more educated, had more cosmopolitant contacts and are earlier adopters of new agricultural ideas.

Basendewa (23) suggested:

> . . . success in bringing about desired changes in behavior with farmers frequently depends on the extension worker's skill in arranging the best learning situation and in using the most effective methods of teaching in that situation (p. 33).

Lionberger (24) indicated that the adoption of a new idea or practice is a process through which the individual consciously or unconsciously passes when he first learns a new practice until the time he adopts such a practice.

The steps involved are:

1. Awareness stage
2. Interest stage
3. Evaluation stage
4. Trial stage
5. Adoption stage.

The extension agent must be willing to help the farmers in each of the above steps directly or indirectly. It is generally accepted that extension education services may be classified in three general categories:

1. The cooperative type of extension services associated with universities. These are common in advanced nations such as USA, Britain, and Canada,
2. Extension services administered by ministries or Department of Agriculture as the case in Nigeria, and
3. Community development programs, as exemplified in Taiwan and most developing nations.

A study of extension workers and farmers characteristics in western Nigeria was conducted by Borne (21) in 1973, using two views of diffusion theory.

One view states that the more progressive and larger farmers do indeed benefit most from extension and new technology, but that the new technology diffuses from those progressive farmers to other members of the community in what is known as the "diffusion process." Thus according to Diffusion Theory, most farmers will eventually benefit from the new ideas and practices. The Diffusion Theory supports the wisdom of following the "progressive farmer's stragegy", but also predicts an equalitarian distribution of the benefits of new technology among peasant farmers. The other views look at distribution, without concerning itself with the increase in the quality of goods.

Brone (21) concluded from this study that:

1. Active searches for methods of promoting the use of new

agricultural technology among the less progressive farmers, such as subsidies, communal cocoa plots and "demonstration plots."

2. Extension workers be trained to more actively select the people with whom they have contact. A more systematic selection of less progressive clients by extension workers could prevent extreme rural poverty in years to come.

Summary

This review of literature indicates that, officials of the Cross River State government, experts of national and international institutions, local and foreign writers have analyzed the relationships between agricultural extension and cocoa farmers in Ikom division. Comparisons have been made by contrasting isolated areas of the country and relationships with other social classes.

However, so far none of the authors have been prone to strongly underline the acute necessity for Cross River State government to review and improve its overall policies regarding the cocoa farmers in the Ikom extension division.

Hopefully, this study will provide up-to-date information concerning "real" conditions affecting relationships between farmers and extension staff, that will consequently lead to better working relationships and more profitable farming operations in Ikom division.

CHAPTER III

DESIGN AND CONDUCT OF THE STUDY

Introduction

The purpose of this chapter is to present the methods and procedures used in analyzing the data of this study.

The design of the study was dictated by the purpose which was to determine perceptions of cocoa farmers and agricultural extension personnel concerning production practices with implication for a mutual working relationships.

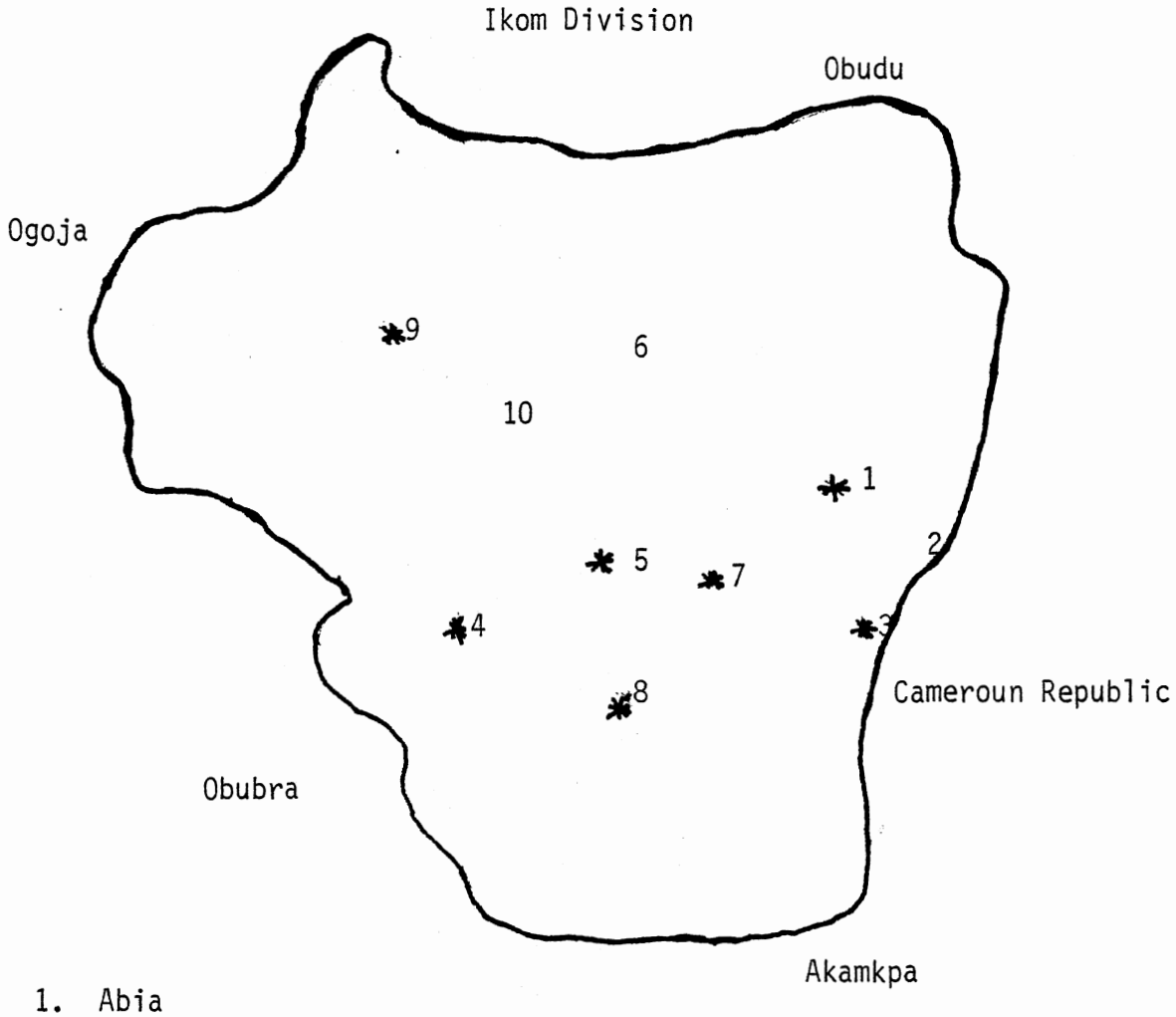
Area of Study

The seven villages selected for this study were Akparabong Ikom, Etomi, Ajassor, Abia, Bendeghe Ekiem and Irruan from a total of ten villages. Osokom, Boje and Agbokum were left out because of their remote location and lack of transportation to and from the villages mentioned (Figure 3).

A survey of all the agricultural extension personnel in these seven villages was conducted.

Population of Study

Fifteen persons in each village were chosen as representatives for the sample. A total of 105 farmers were selected as representative



1. Abia
2. Agbokum
3. Ajassor
4. Akparabong
5. Bendeghe Ekiem
6. Boje
7. Etomi
8. Ikom Urban
9. Irruan
10. Osokum

Figure 3. Map of Ikom Division (not to scale): Illustrating the Location of the Seven Villages

respondents. The population of this study was selected with the following assumptions:

1. The respondents from the villages were cocoa farmers.
2. The respondents were of voting age (21 years or above).
3. The respondents have been residents of the community for at least three years.

Development of Survey Instrument

In order to acquire the information relative to the purpose and objectives of this study, two separate questionnaires were developed for the study (Appendix D). The investigator reviewed literature and instruments that had been used by previous investigators. The instruments were also submitted to agricultural education researchers and other Oklahoma State University personnel for review and evaluation.

Pre-testing the Questionnaire

The intent of the researcher at this stage was to pre-determine if there were "problems" with the questionnaire through pre-testing the questionnaire. The rough draft was pre-tested by students from Ikom division at Oklahoma State University, Central State University, Edmond, and University of Oklahoma at Norman. The responses received from pre-testing determined changes with respect to content and clarity of the questionnaire. The revised version was sent to the graduate thesis committee for approval. The approved questionnaire was used to survey farmers and extension personnel.

Collection of Data

One hundred-five questionnaires were hand delivered to Mr. Joseph Ekure, an OSU graduate student who was going home on vacation. The researcher instructed Mr. Joseph Ekure to personally hand deliver questionnaires to the following:

TABLE I

DISTRIBUTION OF THE SURVEY INSTRUMENTS TO RESPONDENTS

Name	Occupation	Distribution in Sample Area	Number of Copies Distributed to Farmers	Distribution During Market Days
Ndifon Mbu	Tutor, Comp Sec, School Ajassor	Ajassor	15	T TH
Joe Ekure	Okla State Univ, Grad Student	Abia	15	T TH
Joe Ekure	Okla State Univ, Grad Student	Etomi	15	Wed
Colo Agbor	NYSC	Akparabong	15	Sat
Pat Ndifon	Agric Officer	Ikom (Urban)	15	Mon
Colo Agbor	NYSC	Agric Ext	10	M-F
T. O Abang	Tutor, Comp Sec, School Bendeghe Ekiem	Bendeghe Ekiem	15	Fri
Joe Ateh-Abang	Okla State Univ	Irruan	15	T TH

The people mentioned in Table I indicated a desire to help carry out the distribution of the questionnaire to the farmers and agricultural extension workers. The researcher instructed them to distribute the quesionnaires during market days as follows:

1. Ten copies to the first ten farmers who come to sell their produce to the licensed buying agents.
2. Five copies to be given to farmers who come to sell their produce to "pan-buyers" on a "first come-first served basis."
3. The questionnaires were distributed between 11 a.m. and 12 noon of the "marketing days."
4. The questionnaires were distributed to agricultural extension workers Monday through Friday of the same week.
5. The respondent completes the questionnaire himself if he completed the sixth grade of the Nigerian primary school (U.S. about 9th grade of the secondary level). Otherwise, the above named persons filled out the questionnaire themselves by interviewing the respondent.

As a summary, those who took part in the distribution and of interviewing the farmers were to write a brief summary of problems encountered during this period.

Analysis of the Data

The following analysis was included to provide an overview of the statistical treatment of the data collected from the local farmers in the seven villages of Ikom division and ten agricultural extension staff personnel.

A "likert-type" scale, which had categories ranging from "very important" to "no importance", was used to analyze certain portions of the data collected.

To permit statistical treatment of the data, numerical values were assigned to the response categories and real limits defined in the following table:

TABLE II

ABSOLUTE TERMS ARRANGED IN A "LIKERT-TYPE" SCALE

Response Categories		Numerical Value	Range of Real Limits for Categories
Very Impor.	(Very Often)	4	3.50 and above
Important	(Often)	3	2.50 - 3.49
Some Impor.	(Seldom)	2	1.50 - 2.49
Little Impor.	(Little)	1	.50 - 1.49
No Impor.	(None)	0	0.00 - 0.49

Since the research effort was primarily of a descriptive nature, the statistics used were frequency distributions, percentages, rank order, and arithmetic means. Mean responses were selected as an appropriate method of describing the findings.

"Mean responses" in the Tables XII, XIII, XIV, XXIV, XXV and XXVI were calculated by multiplying the number of responses in each rank

order by the numerical value of the category and summing the products.

The sum of the selected items were divided by the total number of responses to secure the mean response.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Introduction

The purpose of this study was to determine the perceptions of cocoa farmers and extension agents in Nigeria concerning production practices with implications for mutual working relationships. The survey instruments were hand delivered to the participating cocoa farmers and agricultural extension personnel.

Data collection in this study involved securing both selected background information and statements and/or opinions given by the 83 cocoa farmers and ten agricultural extension staff in seven different villages in Ikom division of Cross River State of Nigeria.

The purpose of this chapter is to report the findings revealed and the analysis of data assembled.

Population of Study

Data as to the number and percentages of respondents participating in the study are revealed in Table III and Table IV for cocoa farmers and agricultural extension personnel respectively. At the onset seven villages were selected from a total of ten villages within the cocoa farming area of the division. Fifteen persons were selected as representatives from each village. A total of 105 farmers were given the

TABLE III

SUMMARY OF COCOA FARMERS FROM SELECTED VILLAGES PARTICIPATING IN THE STUDY

N = 83

Villages	Number Surveyed	Number Returned	Percent Return
Abia	15	15	100
Ajassor	15	15	100
Akparabong	15	9	60
Bendeghe Ekiem	15	7	47
Etomi	15	15	100
Ikom Urban	15	14	93
Irruan	15	8	53
Total	105	83	79

TABLE IV

SUMMARY OF AGRICULTURAL EXTENSION STAFF PERSONNEL PARTICIPATING IN THE STUDY

N = 10

Number Surveyed	Number Returned	Percent Return
10	9	90

opportunity to respond to the quesionnaire. As can be seen, 79 percent of the respondents participated in the survey. The selection for agricultural extension staff respondents was based on the 1963 census data which is the only data available to the researcher.

Ten agricultural extension staff were reported in the 1963 census data and all were used. As can be seen, response to the survey was 90 percent of the respondents participating.

Findings of the Study

Personal and Demographic Data of Respondents

The first objective was to determine personal and demographic data concerning respondents.

Data collected and presented in Table V show that of the 83 respondents included in the study, 70 (84 percent) were male and 13 (16 percent) were female. Information collected revealed that 73 (88 percent) were married and 10 (12 percent) were single.

It is interesting to note that 36.1 percent of the respondents were between the ages 36-45, 26.50 percent were between ages 46-56, 15.60 percent were 56 years old and above, while 10.8 percent are between ages 16-25 and 10.8 percent between ages 26-35.

No major differences were found among the villages for any of the comparison factors.

Data presented in Table VI show that of the nine agricultural extension staff respondents included in the study nine (100 percent) were male, one (11.11 percent) was between ages 16-25 years, four (44.44 percent) were between ages 26-35 and four (44.44 percent) also were 36-45.

TABLE V

SUMMARY OF "IKOM FARMER'S" RESPONSES BASED ON SEX, AGE, AND MARITAL STATUS

Comparison Factors	Abia		Ajassor		Akparabong		Bendeghe Ekiem		Etomi		Ikom Urban		Irruan		Total N=83	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Sex:																
Male	14	73	13	87	7	78	7	100	11	73	13	93	8	100	70	84
Female	4	27	2	13	2	22	-	---	4	27	1	7	-	---	13	16
Marital Status:																
Married	12	80	13	87	8	89	7	100	12	80	14	100	7	88	70	88
Single	3	20	2	13	1	11	-	---	3	20	--	---	1	12	10	12
Age:																
16-25 yrs.	4	27	--	--	-	--	-	---	5	33	--	---	-	---	9	10.8
26-35 yrs.	5	33	1	7	-	--	-	---	1	7	7	7	1	12.3	9	10.8
36-45 yrs.	5	33	6	40	4	44.4	11	14	2	13	8	57	4	50.0	30	36.1
46-55 yrs.	1	7	5	33	3	33.3	3	43	4	27	4	29	2	25.0	22	26.5
56 years or over	-	--	3	20	2	22.2	3	43	3	20	1	7	1	12.3	13	15.6

TABLE VI

SUMMARY OF AGRICULTURAL EXTENSION PERSONNEL RESPONSES BASED ON SEX, AGE, MARITAL STATUS AND YEARS OF SERVICE

Item	Number	Percentage
Sex:		
Male	9	100.00
Female	-	---
Age:		
16-25 years	1	11.11
26-35 years	4	44.44
36-45 years	4	44.44
46-55 years	-	---
56 and over	-	---
Total	9	100.00
Marital Status:		
Married	8	88.89
Single	1	11.11
Years of Service:		
1-2 years	1	11.11
3-4 years	2	22.22
5-6 years	1	11.11
7-8 years	1	11.11
9 and over	4	44.44
Total	9	100.00

It is worth noting that of nine agricultural extension staff eight (88.89 percent) are married while one (11.11 percent) single.

Also, it is interesting that of the nine agricultural extension staff in the study four (44.44 percent) have been in extension for more than eight years, while two (22.22 percent) between 2-3 years, one

(11.11 percent) each for 1-2 years, 5-6 years, and 7-8 years.

In Table VII data collected revealed the educational levels and years of experience attained while in extension. Of the nine respondents in the study six (66.67 percent) have attained between 5-9 years (U.S. equivalent 7-9 grade), while three (33.33 percent) have attended school 10-14 years (U.S. equivalent 10-12 grade).

As regards to level of training as agricultural extension staff, six (66.67 percent) have had training between 2-3 years, two (22.22 percent) between 4-5 years, one (11.11 percent) six or more years.

Fifty-six percent of the agricultural extension staff revealed that they seldom participate in in-service training activities while 44.44 percent indicate they often participated.

When the respondents were asked how long they would like to be in training, four (44.44 percent) said between 2½-3 years, three (33.33 percent) indicated between 1½-2 years, while two (22.22 percent) want to be in training between ½-1 year.

Extent of Contact Between Cocoa Farmers and Agricultural Extension Staff

The second objective was to determine the frequency of contacts between cocoa farmers and agricultural extension staff. Findings related to this are presented in Tables VIII, IX, and X. All respondents were asked a series of questions in addition to follow-up questions. Of the nine respondents in the study who were asked to approximate the number of "registered farmers" in their station, six (66.67 percent) give the number as 151 and above, two (22.22 percent)

TABLE VII

SUMMARY OF EDUCATIONAL LEVEL AND FREQUENCY OF "INSERVICE" TRAINING DESIRED AS REPORTED BY THE AGRICULTURAL EXTENSION STAFF

Item	Number	Percentage
Level of Schooling Attained:		
0-4 years	-	---
5-9 years	6	66.67
10-14 years	3	33.33
Level of Training as Agric. Ext. Staff:		
0-1 years	-	---
2-3 years	6	66.67
4-5 years	2	22.22
6 and above	1	11.11
Frequency of Training:		
Very Often	-	---
Often	4	44.44
Seldom	5	55.56
None	-	---
Do you Desire More Training:		
Yes	9	100.00
No	-	---
Length of Time you Would Desire Training:		
½-1 year	2	22.22
1½-2 years	3	33.33
2½-3 years	4	44.44
3½-4 years	-	---

TABLE VIII

SUMMARY OF AGRICULTURAL EXTENSION STAFF RESPONSES AS TO THE NUMBER AND FREQUENCY OF CONTACT WITH THE FARMERS

Item	Number	Percentage
Number of "Registered Farmers":		
1-30	-	---
31-60	-	---
61-90	1	11.11
91-120	2	22.22
121-150	-	---
151 or over	6	66.67
Total	9	100.00
Frequency of "Farmer Meetings":		
Very Often	5	55.56
Often	4	44.44
Seldom	-	---
None	-	---
Total	9	100.00
Frequency of Extension Personnel Attending Farm Meetings:		
Yes	7	77.78
No	2	22.22
Total	9	100.00
Desired Frequency of Meetings:		
Less than once per week	2	22.22
Once per week	6	66.67
More than once per week	1	11.11
Total	9	100.00

TABLE IX

SUMMARY OF EXTENSION "AGENT" RESPONSES RELATING TO FREQUENCY OF FARM VISITS, "FARMER RESPONSES" AND PERCEIVED "FARMER SKILLS"

Response	Number	Percent (%)
Frequency of Farm Visits:		
Once per month	9	100.00
Once per week	-	---
More than once per week	-	---
None	-	---
Total	9	100.00
Farmer's Response to Your Visit:		
Friendly	9	100.00
Unfriendly	-	---
"Could Care Less"	-	---
Total	9	100.00
Perceived "Farmer Skills":		
Very Skilled	6	66.67
Skilled	3	33.33
Unskilled	-	---
Total	9	100.00

TABLE X

SUMMARY OF EXTENSION "AGENT" RESPONSES AS TO THE MAJOR FACTORS INFLUENCING THEIR SELECTION OF FARMERS TO WHOM THEY GIVE ASSISTANCE

Response	Number	Percentage
"Friendly" farmers	1	11.11
"Skilled" farmers	7	77.78
"Rich" farmers	-	--
Others	1	11.11

indicated between 91-120 and one (11.11) percent revealed 61-90 registered farmers.

How often do you meet with them? Five (55.56 percent) indicated very often, four (44.44 percent) indicated often. Have you attended their meetings? Seven (77.78 percent) had a positive response while two (22.22 percent) less than once per week and one (11.11 percent) more than once per week.

Findings presented in Table IX reveal that all the respondents in the study make farm visits once per month. Another follow-up question "How do they react to your visit?" reveals that all respondents indicated friendly, nine (100.00 percent).

As far as selected production skills of the farmers were concerned, most extension personnel respond with "positive ratings."

Six (66.67 percent) indicated the farmers are very skilled, three (33.33 percent) indicated skilled.

Data presented in Table X indicate the selected factors influencing selection of farmers to whom they would give assistance. Respondents were asked the major factors influencing their selection of farmers to help? Seven (77.78 percent) of the respondents indicated skilled farmers and one (11.11 percent) indicated friendly farmers, while one (11.11 percent) revealed other.

Data in Table XI shows responses dealing with farmers who have outside interest other than cocoa farming. Series of questions were asked with follow-up questions to enable them to understand the researchers major question. Respondents were asked, "Do you advise farmers on other areas apart from the cocoa business?" Eight (88.89 percent) answered yes and one (11.11 percent) said no. "Would you recommend a training program to help apart from cocoa business?" All nine (100.00 percent) answered yes.

When extension respondents were asked "How often would you like to be involved in such a program, four (44.44 percent) indicated often, three (33.33 percent) indicated seldom, one (11.11 percent) said very often, while one (11.11 percent) said none.

Training Needs of Farmers

The third objective was to determine the perceptions of agricultural extension staff as to present and future training needs of farmers. Table XII shows present training needs perceived by farmers while data presented in Table XIII reveals the perceived training needs of farmers for the future. All respondents were asked to rank order

TABLE XI

SUMMARY OF EXTENSION "AGENT" RESPONSES REGARDING THEIR ADVICE TO FARMERS CONCERNING OTHER "BUSINESS AREAS" IN ADDITION TO COCOA FARMING

Response	Number	Percentage
I would give advice to farmers in other business areas:		
Yes	8	88.89
No	1	11.11
Total	9	100.00
I would like to be involved in a skill development program for farmers:		
Very Often	1	11.11
Often	4	44.44
Seldom	3	33.33
None	1	11.11

a list of selected "areas" that they perceived as problem areas where farmers presently need training.

Findings in Table XII revealed five major present training needs as perceived by the respondents. They are listed in order of importance:

1. Cocoa plant protection,
2. Seed selection,
3. Nursery raising of seedlings,

TABLE XII

SUMMARY OF PRESENT TRAINING NEEDS OF COCOA FARMERS FOR SELECTED PRODUCTION PRACTICES AS PERCEIVED BY AGRICULTURAL EXTENSION'S PERSONNEL

	Responses as/to Extent of Training Needed											
	Very Important		Important		Some Importance		Little Importance		No Importance		Mean Response	Rank by Mean Score
Item of Training	N	%	N	%	N	%	N	%	N	%		
Cocoa Plant Protection	5	55.56	3	33.33	1	11.11	-	--	-	--	3.44	1
Fertilizer Application	4	44.44	1	11.11	2	22.22	1	11.11	1	11.11	2.67	6
Nursery Raising of Seedlings	5	55.56	1	11.11	1	11.11	2	22.22	-	--	3.00	3
Use of Credit Sources	3	33.33	2	22.22	1	11.11	-	--	3	33.33	2.22	11
Use of New Equipment	3	33.33	2	22.22	3	33.33	-	--	1	11.11	2.67	6
Storage	3	33.33	2	22.22	3	33.33	-	--	1	11.11	2.67	6
Transportation of Seedlings	4	44.44	1	11.11	4	44.44	-	--	-	--	3.00	3
Marketing	2	22.22	4	44.44	2	22.22	1	11.11	-	--	2.78	5
Chemical Weed Control	4	44.44	-	--	4	44.44	-	--	1	11.11	2.67	6

TABLE XII (Continued)

Item of Training	Responses as/to Extent of Training Needed										Mean Response	Rank by Mean Score
	Very Important		Important		Some Importance		Little Importance		No Importance			
	N	%	N	%	N	%	N	%	N	%		
Black Pod Control	2	22.22	2	22.22	2	22.22	3	33.33	-	--	2.33	10
Seed Selection	3	33.33	4	44.44	2	22.22	-	--	-	--	3.11	2

Values: Very Important = 4; Important = 3; Some Importance = 2; Little Importance = 1; No Importance = 0

4. Transportation of seedlings, and
5. Marketing.

The ranking shows that farmers require immediate training in cocoa plant protection, seed selection, nursery raising of seedlings and transportantion of the seedlings compared to training for black pod control and the use of credit sources which rank tenth and eleven respectively.

Data presented in Table XIII reveals that the future training needs of farmers reflect the move to a more organized system. Six major production problems were ranked high by the respondents:

1. Cocoa plant protection,
2. Marketing,
3. Chemical week control,
4. Use of new equipment,
5. Storage, and
6. Seed selection.

The above ranking which reveals the farmers future training needs were set out in decending order of magnitude. In other words, cocoa plant protection is preferred to marketing while storage is also preferred to seed selection.

The Extent to Which Agricultural Extension Personnel can be Helpful as Characterized by the Farmers

The fourth objective was to determine farmer's perceptions of benefits resulting from agricultural extension programs. Particularly

TABLE XIII

SUMMARY OF FUTURE TRAINING NEEDS OF COCOA FARMERS FOR SELECTED PRODUCTION PRACTICES AS PERCEIVED BY AGRICULTURAL EXTENSION PERSONNEL

	Responses as/to Extent of Training Needed											
	Very Important		Important		Some Importance		Little Importance		No Importance		Mean Response	Rank by Mean Score
Item of Training	N	%	N	%	N	%	N	%	N	%		
Cocoa Plant Protection	5	55.56	4	44.44	-	--	-	--	-	--	3.56	1
Fertilizer Application	2	22.22	4	44.44	1	11.11	2	22.22	-	--	2.67	8
Nursery Raising of Seedlings	2	22.22	2	22.22	1	11.11	3	33.33	1	11.11	2.11	11
Use of Credit Sources	2	22.22	3	33.33	1	11.11	1	11.11	2	22.22	2.22	10
Use of New Equipment	5	55.56	-	--	3	33.33	1	11.11	-	--	3.00	4
Storage	5	55.56	1	11.11	2	22.22	-	--	-	--	3.00	4
Transportation of Seedlings	2	22.22	4	44.44	2	22.22	1	11.11	-	--	2.76	7
Marketing	4	44.44	5	55.56	-	--	-	--	-	--	3.44	2
Chemical Weed Control	4	44.44	2	22.22	3	33.33	-	--	-	--	3.11	3

TABLE XIII (Continued)

Item of Training	Responses as/to Extent of Training Needed										Mean Response	Rank by Mean Score
	Very Important		Important		Some Importance		Little Importance		No Importance			
	N	%	N	%	N	%	N	%	N	%		
Black Pod Control	5	55.56	-	--	1	11.11	2	22.22	1	11.11	2.67	8
Seed Selection	4	44.44	2	22.22	1	11.11	1	11.11	-	--	3.00	4

Values: Very Important = 4; Important = 3; Some Importance = 2; Little Importance = 1; No Importance = 0

field visits made by agricultural extension staff personnel.

Findings presented in Table XIV reveals respondent's categorization of selected problems that farmers feel the agricultural extension personnel would be helpful. The major areas of assistance desired by the farmers in the villages were in the following order of importance:

1. Black pod control,
2. Cocoa plant protection,
3. Marketing information,
4. Weed control,
5. Transportation of seedlings,
6. Use of drying oven,
7. Storage facilities,
8. Nursery raising of seedlings,
9. Fertilizer application,
10. Use of credit sources, and
11. Use of new equipment.

As indicated in the previous rankings, this is also an indication for the farmers priorities for assistance from the extension personnel.

Findings exhibited in Table XV show that farmers were interested in applying new ideas taught to them by agricultural extension personnel. The responses of 83 individuals indicated 31 (37.40 percent) used the ideas very often, 24 (28.90 percent) often, 22 (26.5 percent) seldom, and six (7.23 percent) responded never.

Data presented in Table XVI reveal that of the 83 respondents in the study concerning the frequency of information received by the farmers, 28 (33.70 percent) indicated they received information "often"

TABLE XIV

SUMMARY OF COCOA FARMER RESPONSES AS TO THE HELPFULNESS OF AGRICULTURAL EXTENSION PERSONNEL CONCERNING SELECTED PRODUCTION PROBLEMS

	Response by Category											
	Very Important		Important		Some Importance		Little Importance		No Importance		Mean Response	Rank by Mean Score
Problem Areas	N	%	N	%	N	%	N	%	N	%		
Cocoa Plant Protection	41	49.4	18	26.7	3	3.6	20	24.1	1	7.14	2.94	2
Fertilizer Application	16	19.3	18	26.7	8	9.6	16	19.3	25	30.1	1.69	9
Nursery Raising of Seedlings	41	39.4	13	17	8	9.6	14	16.9	7	8.4	1.81	8
Use of Credit Sources	12	14.5	10	12.0	20	24.1	13	15.6	28	33.7	1.58	10
Use of New Equipment	14	16.9	9	10.8	15	18.1	14	16.9	31	37.4	1.53	11
Storage Facilities	19	22.9	23	27.7	7	8.4	4	4.8	30	36.1	1.96	7
Transportation of Seedlings	33	39.8	10	12	7	8.4	6	7.2	27	32.5	2.19	5
Marketing Information	31	37.3	15	18.1	7	8.4	14	16.9	16	19.11	2.37	3
Weed Control	30	36.1	19	22.9	8	9.6	2	2.4	24	28.9	2.35	4

TABLE XIV (Continued)

Problem Areas	Response by Category: Very Important N	Very Important %	Important N	Important %	Some Importance N	Some Importance %	Little Importance N	Little Importance %	No Importance N	No Importance %	Mean Response	Rank by Mean Score
Black Pod Control	54	65.1	11	13.3	2	2.4	14	16.9	2	2.4	3.22	1
Use of Drying Oven	27	32.8	8	9.6	14	16.9	5	6.0	24	34.9	1.99	6

Values: Very Important = 4; Important = 3; Some Importance = 2; Little Importance = 1; No Importance = 0

TABLE XV

SUMMARY OF FARMER'S RESPONSES BY VILLAGE AS TO FREQUENCY AND USE OF PRODUCTION PRACTICES RECOMMENDED BY EXTENSION PERSONNEL

	Very Often		Often		Seldom		Never		Total	
Village	N	%	N	%	N	%	N	%	N	%
Abia	9	60.00	2	13.33	4	26.67	-	--	15	100.00
Ajassor	2	13.33	7	46.67	5	33.33	1	6.67	15	100.00
Akparabong	6	66.67	3	33.33	-	--	-	--	9	100.00
Bendeghe Ekiem	1	14.30	2	28.60	-	--	4	57.14	7	100.00
Etomi	6	40.00	8	53.33	1	6.67	-	--	15	100.00
Ikom (Urban)	4	28.57	1	7.14	9	64.29	-	--	14	100.00
Irruan	3	37.50	1	12.24	3	37.50	1	12.25	8	100.00
Total	31	37.40	24	28.9	22	26.51	6	7.23	83	100.00

TABLE XVI

SUMMARY OF FARMER'S RESPONSES BY VILLAGE AS TO THE FREQUENCY OF INFORMATION RECEIVED FROM VARIOUS SOURCES REGARDING COCOA FARMING

	Very Often		Often		Seldom		Never		Total	
Village	N	%	N	%	N	%	N	%	N	%
Abia	12	80.00	3	20.00	-	--	-	--	15	100.00
Ajassor	2	13.33	8	53.33	5	33.33	-	--	15	100.00
Akparabong	-	--	5	55.56	4	44.44	-	--	9	100.00
Bendeghe Ekiem	2	28.60	1	14.30	1	14.30	3	42.90	7	100.00
Etomi	4	26.67	9	60.00	2	13.33	-	--	15	100.00
Ikom (Urban)	3	21.43	1	7.14	10	71.43	-	--	14	100.00
Irruan	1	12.25	1	12.25	5	62.25	1	12.25	8	100.00
Total	24	28.90	28	33.70	27	32.50	4	4.80	83	100.00

while 27 (32.50 percent) indicated "seldom", 24 (28.90 percent) indicated "very often", and four (4.80 percent) indicated they had never received any information.

Data presented in Table XVII revealed that of the 83 respondents 39 (47.00 percent) showed that they received information from their neighbor, 25 (30.10 percent) from agricultural extension staff, 11 (13.33 percent) from the radio, six (7.20 percent) from the newspaper and two (2.40 percent) from other sources.

Data presented in Table XVIII shows that of the 83 respondents in the study, 14 (16.90 percent) had yields of 0-1 ton per year, 30 (36.10 percent) indicated that they produced between 2-3 tons, 21 (25.30 percent) indicated 4-5 tons, 11 (14.50 percent) produced 6-7 tons, and seven (8.45 percent) had yields of eight tons or more.

Data collected and presented in Table XIX represents the response of 83 participants concerning the number of field visits by the extension staff, of the 83 respondents 59 (71.10 percent) indicated one to three agricultural extension staff have visited their village while six (7.20 percent) indicated they have not been visited by any agricultural personnel. Finally as shown in Table XX 36 (43.4 percent) indicated that they met with the agricultural extension staff less than once per week.

Also 32 (38.5 percent) as revealed in Table XXI indicated they would like to meet the extension staff at least once per week. This was very close to the number who indicated they meet the agricultural extension staff once per week in Table XX.

Findings shown in Table XXII and XXIII give the respondent's reactions with regard to contact and feelings about agricultural extension staff.

TABLE XVII

SUMMARY OF FARMER'S RESPONSES BY VILLAGE AS TO SOURCES OF INFORMATION IN REGARD TO IMPROVED PRACTICES

	Radio		Newspaper		Agricultural Extension Staff		Neighbor		Others*		Total	
Village	N	%	N	%	N	%	N	%	N	%	N	%
Abia	1	6.67	1	6.67	8	53.33	5	33.33	-	--	15	100.00
Ajassor	5	--	1	6.67	2	13.33	7	46.67	-	--	15	100.00
Akparabong	1	11.11	-	--	5	55.56	3	33.33	-	--	9	100.00
Bendghe Ekiem	-	--	-	--	3	42.90	2	28.60	2	28.6	7	100.00
Etomi	4	26.67	3	20.00	3	20.00	5	33.33	-	--	15	100.00
Ikom (Urban)	-	--	-	--	1	7.14	13	92.86	-	--	--	---
Irruan	-	--	1	12.25	3	37.50	4	50.00	-	--	8	100.00
Total	11	13.33	6	7.20	25	30.10	39	47.00	2	2.40	83	100.00

*Others: Cocoa Managers, Local Leaders, etc.

TABLE XVIII

SUMMARY OF 1980 COCOA YIELDS BY VILLAGE AS REPORTED BY FARMERS

	Cocoa Yields											
	0 - 1 *Tons		2 - 3 Tons		4 - 5 Tons		6 - 7 Tons		8 and over Tons		Total Yield	
Village	N	%	N	%	N	%	N	%	N	%	N	%
Abia	-	--	6	40.00	5	33.33	2	13.33	2	13.33	15	100.00
Ajassor	5	33.33	3	20.00	4	26.67	1	13.33	1	6.67	15	100.00
Akparabong	3	33.33	5	55.56	1	11.11	-	--	-	--	9	100.00
Bendeghe Ekiem	1	14.30	3	42.90	2	28.60	1	14.30	-	--	7	100.00
Etomi	1	6.67	6	40.00	5	33.33	3	20.00	-	--	15	100.00
Ikom (Urban)	-	--	3	21.43	4	28.57	4	28.57	3	21.43	14	100.00
Irruan	4	50.00	4	50.00	-	--	-	--	-	--	8	100.00
Total	14	16.90	30	36.10	21	14.50	11	14.50	7	7.20	83	100.00

*Tons: One ton = 2000 pounds.

TABLE XIX

SUMMARY OF FARMER'S RESPONSES AS TO THE NUMBER OF AGRICULTURAL EXTENSION STAFF MAKING VISITS TO THEIR RESPECTIVE VILLAGES

Number of Ext Staff Involved	Abia		Ajassor		Akparabong		Bendeghe Ekiem		Etomi		Ikom Urban		Irruan		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
None	--	---	--	---	1	11.1	4	57.1	9	60.0	--	---	1	12.3	6	7.2
1-3	13	86.7	11	73.3	7	77.8	3	42.9	5	33.3	10	71.4	6	75.0	59	71.1
4-6	2	13.3	3	20.0	1	11.1	-	---	1	6.7	4	28.6	-	---	15	18.1
7-9	--	---	--	---	-	---	-	---	--	---	--	---	1	12.3	2	2.4
10 and over	--	---	1	6.7	-	---	-	---	--	---	--	---	-	---	1	1.2
Total Responses	15	100.00	15	100.00	9	100.00	7	100.00	15	100.00	14	100.00	8	100.00	83	100.00

*Visiting refers to actual presence in the village for either formal or informal teaching and/or counseling.

TABLE XX

SUMMARY OF FARMER'S RESPONSES BY VILLAGES AS TO FREQUENCY WITH WHICH THEY CONFER WITH EXTENSION PERSONNEL

	Less Than Once Per Week		Once Per Week		More Than Once Per Week		Total	
Villages	N	%	N	%	N	%	N	%
Abia	1	6.7	9	60.0	5	33.3	15	100.00
Ajassor	13	86.7	2	13.3	--	--	15	100.00
Akparabong	6	66.7	2	22.22	1	11.1	9	100.00
Bendeghe Ekiem	5	71.4	--	--	2	28.6	7	100.00
Etomi	--	--	12	80.0	3	20.0	15	100.00
Ikom Urban	8	57.1	6	42.9	--	--	14	100.00
Irruan	3	37.5	--	--	5	62.3	8	100.00
Total Responses	36	43.4	31	37.4	16	19.3	83	100.00

TABLE XXI

SUMMARY OF FARMER'S ASPIRATIONS BY VILLAGE AS TO THEIR FREQUENCY OF ATTENDANCE AT "EDUCATIONAL MEETINGS" ARRANGED BY AGRICULTURAL EXTENSION STAFF

	Less Than Once Per Week		Once Per Week		More Than Once Per Week		Total	
Village	N	%	N	%	N	%	N	%
Abia	2	13.3	8	46.7	5	33.3	15	100.00
Ajassor	7	46.7	2	13.3	6	40.0	15	100.00
Akparabong	7	77.8	--	--	2	22.2	9	100.00
Bendeghe Ekiem	1	14.3	3	42.9	3	42.9	7	100.00
Etomi	--	--	12	80.0	3	20.0	15	100.00
Ikom Urban	12	85.7	2	14.3	--	--	14	100.00
Irruan	2	25.0	5	62.3	1	12.3	8	100.00
Total Response	31	37.2	32	38.5	20	24.1	83	100.00

TABLE XXII

SUMMARY OF FARMERS' TENDENCIES TO CONTACT EXTENSION PERSONNEL AS WELL AS BEING APPROACHABLE

	N	%
Tendency to Contact:		
Yes	70	84
No	13	16
Total	83	100.00
"Approachable":		
Unfriendly	8	9.60
Friendly	54	65.10
Does Not Care to Help Farmers	5	6.00
Seeks a "Gift" Before Offering to Help	16	19.30
Total	83	100.00

TABLE XXIII

SUMMARY OF FARMER'S' RESPONSES AS TO THE IDENTITY OF OTHERS FROM WHOM THEY SEEK ASSISTANCE

	N	%
Friend who is a Cocoa Farmer	45	54.22
Relative who has "Money"	15	18.07
Cocoa Estate Managers	23	27.71
Total	83	100.00

Data collected and presented in Table XXII show that of the 83 respondents included in the study, 70 (84 percent) contacted the agricultural extension staff when they discovered a problem on their farms while 13 (16 percent) indicated they do not contact the agricultural extension agent. It is also interesting to note that of the 13 (16 percent) who indicate that they don't contact the agricultural extension staff, all of them indicated that they felt that the agricultural extension staff would seek gifts if requested to help. The following question indicates "How do extension staff members react when you approach them with a problem?"

Respondents to the above question in Table XXII showed that 54 (65.10 percent) indicated that the agricultural extension staff was friendly, 16 (19.30 percent) say that he seeks gifts if requested to help, while eight (9.60 percent) of the respondents reported that the agricultural extension staff was unfriendly.

Data presented in Table XXIII show that farmers were willing to discuss their farm problem with other farmers. Of the 83 respondents included in the study, 45(54.22 percent) indicated that they contacted fellow farmers with problems related to cocoa, while 15 (18.07 percent) contacted relatives with "money", leaving 23 (27.71 percent) indicating they contacted cocoa estate managers with their problems.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of the study with emphasis on the problem, design, conduct of the study, and the major findings. The conclusions and recommendations are also presented which are based upon the analysis and synthesis of data collected and also, in part, upon the observations and impressions of the investigator resulting from the design and conduct of the study.

The Purpose of the Study

The major purpose of the study was to determine perceptions of cocoa farmers and agricultural extension personnel concerning production practices with implications for mutual working relationships.

Objectives of the Study

The investigation was based on the following specific items:

1. To determine selected demographic data of respondents.
2. To determine the frequency of contacts between cocoa farmers and agricultural extension staff.
3. To determine perceptions of agricultural extension staff as to present and future training needs of farmers.
4. To determine cocoa farmer's perceptions of the nature and

extent of present benefits resulting from the extension agricultural programs; particularly field visits made by agricultural extension staff.

Summary of the Study

Two sets of questionnaires were developed for collecting data. One set of the questionnaire was developed for the cocoa farmer. It contained 32 items which dealt specifically with the objectives of the study. At the beginning seven villages were chosen from a total number of ten. Fifteen persons per village were selected for the study. A total of 105 questionnaires were distributed and 83 (79 percent) collected.

The "extension staff" questionnaire was developed for agricultural extension workers. The survey was carried out among the ten agricultural extension staff, and nine (90 percent) instruments were returned.

The population of cocoa farmers in this study was selected with the following considerations:

1. All respondents must be cocoa farmers.
2. All respondents must of be voting age (21 years or above).
3. All respondents must have been residents of the community for at least three years.

There was no restriction placed on the agricultural extension workers other than the fact that the survey was the only method used. All were government employees.

Summary of the Findings

Personal and Demographic Data of Respondents

Of the 83 cocoa farmers respondents in this study, 70 (84 percent) were male and 13 (16 percent) were female. The majority of respondents were married, 73 (88 percent), leaving 10 (12 percent) who were single. As to their ages, 36.1 percent of respondents were between ages 36-45 years, 26.50 percent were between 46-56 years, 15.60 percent were 56 years and above, 10.8 percent were between ages 16-25, and 10.8 percent were between 26-35 years old.

Of the agricultural extension members surveyed in this study, nine (100 percent) were male, one (11.11 percent) was between ages 16-25, four (44.44 percent) were between ages 26-35 and four (44.44 percent) between ages 36-45. It was also found that of the nine agricultural extension staff in the study, four (44.44 percent) had been in the extension service for more than eight years, while two (22.22 percent) have been in extension 2-3 years, one (11.11 percent) have been in extension between 1-2 years, one (11.11 percent) between 5-6 years, and one (11.11 percent) between 7-8 years.

It was also found that of the nine agricultural extension in the study, six (66.67 percent) have attained educational level equivalent to U.S. 7-9 grade. While three (33.32 percent) have educational level equivalent to U.S. 10-12 grade. Approximately 55.56 percent of the agricultural extension staff seldom attend in-service training meetings while 44.46 percent attend in-service training often.

Extent of Contact Between Cocoa Farmers and Agricultural Extension Staff

It was found that most of the agricultural extension staff meet periodically with their respective cooperating cocoa farmers. This was determined by evaluating responses as to the frequency of contact by the agricultural extension staff with cocoa farmers. More than 70 percent of the extension staff revealed that in the past they attended meetings called by the farmers, while 66.66 percent of those indicating that they did not attend.

Extension workers revealed that they rated 30 percent of the farmers as "merely skilled", while they indicated the rest as "very skilled." An attribute of character that extension respondents found among the cocoa farmers was their "friendliness." Consequently, it was concluded that most of the extension staff were very willing to recommend a training program for the cocoa farmers apart from cocoa farming, and it was further determined that of these extension workers 88.89 percent were very willing to provide such training. However, when they were asked about the extent of their willingness to become involved, the distribution of responses was almost equally divided among the categories "very often", "often", "seldom", and "none."

Training Needs of Cocoa Farmers

The agricultural extension staff indicated that the number one problem in which farmers needed present training is "cocoa plant protection." Ranking second among problems perceived by extension personnel was seed selection followed by nursery raising of seedlings

and transportation of seedlings which tied for third, while inadequate marketing information was revealed as fifth. The area of "least training need", as indicated by the extension respondents was use of "credit sources."

When extension staff members were asked about future training needs, they ranked the selected production problems in the following order of importance:

1. Cocoa plant protection,
2. Marketing information,
3. Chemical weed control,
4. Use of new equipment,
5. Storage facilities,
6. Seed selection,
7. Transportation of seedlings,
8. Fertilizer application,
9. Black pod control,
10. Use and awareness of credit institutions, and
11. Raising of nursery seedlings.

Table XXIV was designed to present an overall comparison of average response perceived by agricultural extension staff regarding the "present" and "future" training needs of the farmer. The extension staff ranked cocoa plant protection as the number one area of "needed training", for both present and future. Seed selection was ranked second for "present need" while the "future need" was marketing information as the second. The extension staff ranked black pod control and use of credit facilities as the sixth and seventh respectively.

TABLE XXIV

COMPARISON OF AVERAGE RESPONSE SCORES
GIVEN BY AGRICULTURAL EXTENSION STAFF

Item of Training Needed	Present	Rank	Future	Rank
Cocoa plant protection	3.44	1 tie	3.56	1 tie
Fertilizer application	2.67	5	2.67	6
Nursery raising of seedlings	3.00	3	2.11	8
Use of "credit sources"	2.22	7 tie	2.22	7 tie
Use of new equipment	2.67	5	3.00	4
Storage facilities	2.67	5	3.00	4
Transportation of seedlings	3.00	3	2.67	5
Marketing information	2.78	4	3.44	2
Chemical weed control	2.67	5	3.11	3
Black pod control	2.33	6 tie	2.67	6 tie
Seed selection	3.11	2	3.00	4

The Extent to Which Agricultural Extension Staff can be Helpful as Characterized by the Cocoa Farmers

The number one problem area of the farmers was black pod control as determined by the average frequency-of-needing training rating 3.22 or "important." This was followed by cocoa plant protection (2.94) which fell also into the "important" category. Other problem areas where they needed help were marketing information, chemical weed control and transportation of seedlings. While use of drying and storage facilities, raising of nursery seedlings, fertilizer application, use of "credit sources" and use of new equipment fell into the "little importance" category.

Tables XXV and XXVI were designed to present a summary comparison of average responses given by farmers with those given by extension staff. The farmers felt black pod control and cocoa plant protection was a major problem as such they fell into the "important" category. Comparatively, extension staff felt there were nine major areas in the "important" category including: cocoa plant protection, seed selection, rearing of nursery seedlings, transportation of seedlings, marketing information, use of new equipment, storage facilities and chemical weed control.

The comparative analysis of both the cocoa farmers and the extension personnel in Table XXV and XXVI shows that both agreed that there were areas of needs and/or assistance to the farmers. While the cocoa farmers affirmed that there were only two areas of utmost priority, extension personnel feel in line with this ascertion but contended that the areas of need and/or assistance were not only two but nine.

TABLE XXV

COMPARISON OF RESPONSES GIVEN BY FARMERS AND BY EXTENSION STAFF MEMBERS REGARDING SELECTED AREAS OF PRESENT TRAINING NEEDS

Item of Training Needed and/or Problem Areas	Present Need			
	Farmer	Rank	Extension Staff	Rank
Cocoa plant protection	2.94	2	3.44	1
Fertilizer application	1.69	9	2.67	5
Nursery raising of seedlings	1.81	8	3.00	3
Use of credit sources	1.58	10	2.22	7
Use of new equipment	1.53	11	2.67	5
Storage facilities	1.96	7	2.67	5
Transportation of seedlings	2.19	5	3.00	3
Marketing information	2.37	3	2.78	4
Chemical weed control	2.35	4	2.67	5
Black pod control	3.22	1	2.33	6
Seed selection*	-	-	3.11	2
Use of drying oven**	1.99	6	-	-

*Asked of extension staff only.
**Asked of farmers only.

TABLE XXVI

COMPARISON OF RESPONSE OF PRESENT TRAINING NEEDS PERCEIVED BY FARMERS WITH THOSE PERCEIVED BY EXTENSION STAFF AS TO FUTURE TRAINING NEEDS OF FARMERS

Item of Training Needed and/or Problem Areas	Present Need		Future Need	
	Farmers	Rank	Extension	Rank
Cocoa plant protection	2.94	2	3.56	1
Fertilizer application	1.69	9	2.67	6
Nursery raising of seedlings	1.81	8	2.11	8 tie
Use of credit sources	1.58	10	2.22	7
Use of new equipment	1.53	11	3.00	4
Storage facilities	1.96	7	3.00	4
Transportation of seedlings	2.19	5	2.76	5 tie
Marketing information	2.37	3	3.44	2
Chemical weed control	2.35	4	3.11	3
Black pod control	3.22	1	2.67	6
Seed selection*	-	-	3.00	4
Use of drying oven**	1.99	6	-	-

*Asked of extension staff only.
**Asked of farmers only.

The summary proposition by the two classes of people here is that the two assertions were not exclusive events but interdependent.

Asserted as the number one source of information by farmer respondents was their neighbors. Of the 83 respondents in the study, 39 (47.00 percent) said they received information concerning cocoa farming practices from their neighbor. This was followed by agricultural extension staff, radio, newspaper which ranked third and fourth respectively. It was found that 43.4 percent of the farmers meet with the extension staff less than once per week, while 37.4 percent meet with the extension as often as once per week. Most of the farmers expressed their interest as regards to frequency of meetings they would like to attend. Those responding to this inquiry (38.50 percent) would like such a meeting once per week as contrasted to 37.20 percent who indicated preference for meeting less than once a week.

Another area of interest investigated was the farmer's feelings concerning approachability of the agricultural extension staff. Approximately 65.10 percent viewed the extension staff as "friendly" while 19.30 percent felt the extension staff members seek gifts if requested to help.

Conclusions

From the analysis and interpretation of findings of the study, the following conclusions were made by the investigator.

Personal and Demographic Data

1. The Cocoa farming population is largely made up of older people, with 42 percent of the farmers being above 46 years

old. Life expectancy in Nigeria is said to be less than 56 years. With such a high percentage of older people in cocoa farming it is inevitable to say that the rate of illiteracy is very high.

2. The exodus to metropolitan centers by the young people has pushed the burden of modern practices in agriculture to the aged and illiterate farmers. This can be seen with the steady decline in cocoa yields.
3. The inverse is the case with the extension staff. More than 80 percent of the extension staff are between ages 26-45 years. The age differences has an impact on how they can relate to the farmers.
4. The extension staff constitutes a "bridge" between the farmers and their adoption of methods of "modern" agricultural practices and research. The educational level attained by extension staff is such that 66.67 percent have completed between 5-6 years (U.S. equivalent 7-9 grade) of schooling. No matter how one defines functional literacy, he is forced to conclude that the extension staff do not have as much background or education as might be needed to effectively communicate and interprete new research methods to the farmers.

Conclusion Concerning Extent of Contact Between Cocoa Farmers and Agricultural Extension Staff

Of the agricultural extension staff studied, most viewed themselves having "regular" contact with farmers. This is very important

since the bulk of the farmer's problems involve consideration of enigmas both outside and inside their occupation. The extension staffer's job definitely includes the improvement of the wellbeing of the local farmers as well as helping them increase their income. This attitude is clearly indicated through the 100 percent response by the extension staff on advising and helping the farmers to organize new programs.

Conclusion Concerning Training Needs of Farmers

1. Extension workers clearly seem to recognize that, at present, major problems encompass plant protection, seed selection, transportation of seedlings and securing adequate marketing information as reported by the extension personnel. The exodus of youth to metropolitan cities has left the older farmers without needed "helping hands" for such jobs as transportation of seedlings and cocoa plant protection. This exodus has also created problems that in the past were unheard of, such as needed family labor in such activities as black pod control, nursery raising of seedlings and the use of new equipment.
2. Future training area needed as revealed by extension personnel, include cocoa plant protection, marketing, chemical weed control, and seed selection. A rural population that is predominantly made up of older farmers and having such major problems as these can readily expect an uncertain future which can weaken the agricultural sector and livelihood of its citizens.

Conclusions Concerning the Extent to Which Agricultural Extention Workers can be Characterized as Being Helpful to Farmers

1. A "competent and willing" extension staff is necessary for the success of extension work. They serve as channels of communication between the people and the government, as well as a means of relating programs of work to the immediate needs of the people. The farmers need the services of extension staff to help them solve their major agricultural problems. Only 30 percent of the farmers surveyed receive their information concerning ways of improving their production through the extension staff.
2. The major problem areas of the farmers is in black pod control, cocoa plant protection, marketing information, weed control which were chosen first, second, fourth and fifth respectively. The need for extension is well recognized by the farmers whose livelihood will be ruined by the lack of chemicals and market for his products.
3. The extended family system has been effectively utilized by the farmers to solve some of their problems. Forty-seven percent of the farmers contact their relatives and neighbors for advice. Many factors might have contributed to this high percentage including the lineage already mentioned. The transportation system to attend meetings with extension staff might force villagers to send representatives to such meetings to reduce cost of transportation.

4. Twenty percent of the farmers have reported having been approached for "gifts" before services are rendered to them by the extension staff. This might have forced them to turn to their neighbors for advice to avoid any gift to the extension staff.
5. The number of people in extension is relatively small and the area to cover is too large. This, coupled with lack of transportation provides relatively poor incentives for diligence and perseverance toward the job. Therefore, in a sense the government may have contributed somewhat to the questionable practice of seeking "gifts" as compensatory way to render service.

Recommendations

As a result of the conclusions drawn from the researcher's experiences and a studied interpretation and analysis of data, the following recommendations are made:

1. The extension staff and the cocoa farmers should organize regular meetings to help find out areas that they could work to help young people stay in farming.
2. Local leaders and the extension staff should organize and provide meetings once each three week period to demonstrate methods of helping the farmers to solve some of their major problems.
3. The extension staff should organize programs that will

involve women because they are very influencial in their decisions regarding operation and financial involvement in cocoa farming.

4. The extension staff should make arrangements with the School of Agriculture to send experts to give lectures in the language of the people in areas of plant protection, black pod control and seed selection.
5. The government should involve more women in extension services. This will go far to help them in organizing programs in areas of homemaking.
6. The government should encourage the teaching of agricultural courses in secondary schools. Clubs like 4-H, Youth Club, FFA, will go far in encouraging young people in the rural areas to stay in farming.
7. In the future, more research should be carried out by faculty in higher education among the farmers and extension staff.
8. Finally, extension workers need to seek ways in which farmers may be lead to see that the extension program is, after all their own program. This can be accomplished if farmers are given a larger role in the decision making process. Perhaps a "Food Corps" type program should be implemented using the principles of "Shrawadana" and Sarvodaya."

A SELECTED BIBLIOGRAPHY

1. R. F. Illustrated, Vol. 2, March, 1976, "Are we Heading for the 9th Ice Age," p. 11.

2. Ofiaja, Nicholas. "Stability and Instability in Politics: The case of Nigeria and Cameroun." Vantage Press, New York, 1979, p. 29.

3. Central Bank of Nigeria: Economic and Financial Review, Federal Printing Press, Lagos. Vol. 16, No. 1, 1977, p. 76.

4. Webster's New Collegiate Dictionary. G & C Merriam Company. Springfield, Massachusetts, 1975.

5. Mosher, A. I. Varieties of Extension and Community Development. New York: Comparative Extension Publication No. 2, 1952.

6. Fay, Ivan G. Notes on Extension Agriculture. New York: Asian Publishing House, 1962.

7. Penders, J. M. A. Methods and Program Planning in Rural Extension. Wageningen, The Netherlands: International Agricultural Study Center, 1956.

8. Oyenuga, V. A. Agriculture in Nigeria an Introduction. Rome: Food and Agricultural Organization, 1967.

9. Leagans, Paul J. "A Concept of Needs." Journal of Cooperative Extension (Madison, Wisconsin, Vol. 11, No. 1, Capring, 1964).

10. Wharton, Clinton H., Jr. The Role of Farmers Education in Agricultural Growth. New York: Agricultural Development Council, 1970.

11. Williams, S. K. T. Agriculture and Adult Education: 1977 Training for Agriculture and Rural Development. Food and Agricultural Organization, Rome, Italy.

12. Kearl, B. E. and O. B. Copeland. (Eds.) "A Guide to Extension Programs for the Future." Raleigh: Agricultural Extension Service Bulletin, North Carolina State College, 1959.

13. Pesson, Lynn L. Extension Program Planning in Rural Extension. Wageningen, The Netherlands: International Agricultural Study Center, 1956.

14. Maunder, A. H. Ed. Agricultural Extension: A Reference Manual. Food and Agricultural Organization Rome: 1972.

15. Stier, Herald. Extension Service Education and Agricultural Development: Agricultural Policy in Developing Countries. New York: Halsted Press, John Wiley and Sons, 1974.

16. Savite, A. H. Extension in Rural Communities. London, New York: Oxford University Press, 1965. Citing Adriano, C. and B. Billings. Home Economics Manual, Manila, Bureau of Agricultural Extension.

17. Cocoa Producing Alliance, Brazil, Federal Government of Brazil, (Ceplac), Food and Agricultural Organization, Bahia, Brazil. 1977, p. 49.

18. Woodhill, J. E. "An Analysis of Educational Needs in Vermond Community." (Unpublished M.S. Thesis, Cornell University, 1958).

19. Osuntogun, A. and G. Hunter. Institutional Determinats and Constraints on Agricultural Development: Case Studies from the Western State of Nigeria. London, UK: ODI (University of Reading/ODI Joint Programme on Agricultural Development).

20. Patel, A. U. and T. B. O. Aulhonio. Farmers' Wives in Agricultural Development: The Nigeria Case. International Journal of Agraian Affairs (London, UK, Supplement 1974/75, p. 63-75).

21. Borne, H. Van den and N. Rolings. Extension Workers and Farmers Characteristics. Wageningen University, Netherlands, 1973.

22. Bradfield, D. J. Guide to Extension Training. Rome, Italy: Food and Agricultural Organization of the United Nations, 1966.

23. Basendewa, M. A. "A Recommended Program for Agricultural Extension Work in South Yemen (Abyan Area)." Unpublished M.S. Thesis, OSU, 1973.

24. Lionberger, H. F. Adoption of New Idea. Iowa: The Iowa State University Press, 1960.

APPENDIXES

APPENDIX A

LETTER TO THE PERMANENT SECRETARY REQUESTING FOR PERMISSION TO SURVEY THE AGRICULTURAL EXTENSION STAFF

10-E Grande
Stillwater, OK 74074

December 15, 1980

The Permanent Secretary
Ministry of Agriculture and
Natural Resources
Calabar C.R.S.

Permission for a research study of agricultural extension staff in Ikom division

Dear Sir:

I am Henry Mbeh Ndifon from Ikom, and a graduate student at Oklahoma State University, Stillater, Oklahoma. I am currently conducting a study to determine the perception expressed by cocoa farmers and agriculture extension workers regarding the extent of a mutual working relationship in Ikom division.

Your cooperation and high initiatives in this project will be highly appreciated. To this end, I am requesting that you read through the questionnaire and return the bearer of this note a letter for the agricultural officer at Ikom to help in the distribution and collection of the completed questionnaire from his subordinates.

Your opinion as appropriate will be considered and a final draft of the results will be presented to you in complete form.

Thanks for your cooperation.

Sincerely,

Henry Ndifon

cc: Dr. James D. White
Chairman of Thesis Committee

Chief Agric. Officer
Agriculture Department
Calabar

Agriculture Officer
Agriculture Office
Ikom

APPENDIX B

LETTER TO FARMERS

10-E Grande
Stillwater, OK 74074

Dear Fellow Farmer:

I am Henry Mbeh Ndifon from Ikom, and a graduate student at Oklahoma State University, Stillwater, Oklahoma. I am currently conducting a study to determine the perception expressed by cocoa farmers and agricultural extension workers regarding the extent and nature of desirable working relationships in Ikom division.

This research effort will help me complete my program and also enable me to determine basic problems that have been troubling farmers in our division. Through this research effort, I hope to make recommendations concerning establishing better working relationships between you and those who represent our government.

Your help will be greatly appreciated.

Sincerely,

Henry Ndifon

Dr. James D. White
Chairman of Thesis Committee

APPENDIX C

LETTER TO AGRICULTURAL EXTENSION STAFF

10-E Grande
Stillwater, OK 74074

Dear Agricultural Extension Staff:

I am Henry Mbeh Ndifon from Ikom, and a graduate student at Oklahoma State University, Stillwater, Oklahoma. I am currently conducting a study to determine the perception expressed by cocoa farmers and agricultural extension workers regarding the extent and nature of desirable working relationships in Ikom division.

This research effort will help me complete my program and also enable me to determine basic problems that have been troubling farmers in our division. Through this research effort, I hope to make recommendations concerning establishing better working relationships between you and the cocoa farmers in Ikom.

Your help will be greatly appreciated.

Sincerely,

Henry Ndifon

Dr. James D. White
Chairman of Thesis Committee

APPENDIX D

STUDY INSTRUMENT

C O C O A F A R M E R

YOUR NAME IS NOT REQUIRED IN THIS PAPER SO BE AS ACCURATE AS POSSIBLE

I T I S N O T A T A X F O R M

Circle one answer only.

1. Sex:

   a. Male b. Female

2. Age:

   a. 16 to 25 years b. 26 to 35 years

   c. 36 to 45 years d. 46 to 55 years

   e. 56 years or over

3. Marital Status:

   a. Married b. Single

4. How many laborers do you have (full-time)?

   a. None b. 1 to 5

   c. 6 to 10 d. 11 to 15

   e. 16 to 20 f. 21 and above

5. How many agricultural extension staff visit your village?

   a. None b. 1 to 3

   c. 5 to 6 d. 7 to 9

   e. 10 and above

6. If you have agricultural extension staff, how often do you meet with them?

   a. Less than once per week b. Once per week

   c. More than once per week

7. Have you ever attended meetings called by an agricultural extension staff?

   a. Yes b. No

8. How often would you like to attend?

   a. Less than once per week b. Once per week

   c. More than once per week

9. If 7 above is no, would you like to attend one?

   a. Yes b. No

10. Do you contact your agricultural extension staff when you have a problem in cocoa farming?

    a. Yes b. No

11. How does the agricultural extension staff react?

    a. Unfriendly b. Friendly

    c. Does not care to help d. Seeks gift in order to help

12. If no to number 10, whom do you contact?

    a. Your friend who has cocoa b. Your relation who has money

    c. Other (Specify)

13-24. To what extent do you feel the agricultural extension staff would be of most help to you?

Check one box.

	Very Impor.	Impor.	Some Impor.	Little Impor.	No Impor.
13. Cocoa plant protection					
14. Fertilizer application					
15. Nursery raising of seedlings					
16. Use of credit sources					
17. Use of new equipment					
18. Storage facilities					
19. Transportation of seedlings					
20. Marketing information					
21. Weed control					
22. Black pod control					
23. Use of drying oven					

24. What other problems do you feel the extension staff would also be of most help to you? (Be specific)

25. Indicate how often you receive information from outside the village regarding your cocoa farming.

    a. Very often b. Often

    c. Seldom d. None

26. From what source do you receive this information?

    a. Radio b. Newspaper

    c. Agric. Ext. Staff d. Neighbor

    e. Others (Specify)

27. How often have you used the ideas introduced to you by your agricultural extension staff?

    a. Very often b. Often

    c. Seldom d. Never

28. How many tons of cocoa do you sell a year?

    a. 0 to 1 ton b. 2 to 3 tons

    c. 4 to 5 tons d. 6 to 7 tons

    e. 8 tons and above

29. Do you think that you can improve your tonage with useful information from your agricultural extension staff?

    a. Yes b. No

30. How quickly are you paid after the sale of your cocoa?

    a. Within 1 week b. Within 2 weeks

    c. Within 3 weeks d. Within 4 weeks

    e. 5 weeks and above

31. If there is a problem in this area do you think that agricultural extension staff should be involved to help?

    a. Yes b. No

32. How often do you hire part-time laborers?

a. Very often
b. Often
c. Seldom
d. None

A G R I C U L T U R A L E X T E N S I O N S T A F F

Circle One Answer Only.

1. Sex:

   a. Male b. Female

2. Age:

   a. 16 to 25 years b. 26 to 35 years

   c. 36 to 45 years d. 46 to 55 years

   e. 56 or over

3. Marital Status:

   a. Married b. Single

4. How many registered cocoa farmers are in your area or station?

   a. 1 to 20 b. 21 to 60

   c. 61 to 90 d. 91 to 120

   e. 121 to 150 f. 151 or over

5. How often do you get to meet them?

   a. Very often b. Often

   c. Seldom d. None

6. Have you ever attended the cocoa farmers meeting?

   a. Yes b. No

7. If you have not been attending would you like to attend one?

   a. Yes b. No

8. How often would you like to attend?

   a. Less than once per week b. Once per week

   c. More than once per week

9. Do you visit the farmers when they have a problem on their plantation?

   a. Yes b. No

10. If yes, how do they react?

    a. Friendly b. Unfriendly

    c. Don't care about my presence

11. If no, would you like to visit with them?

    a. Yes b. No

12. How skilled do you think the farmers are?

    a. Very skilled b. Skilled

    c. Not skilled

13.-23. How would you rank the training needs of the farmers now and also in the future?

NOW: Very Important	Important	Some Importance	Little Impor.	No Importance		FUTURE: Very Important	Important	Some Importance	Little Impor.	No Importance
					13. Cocoa plant protection					
					14. Fertilizer application					
					15. Nursery raising of seedlings					
					16. Use of credit sources					
					17. Use of new equipment					
					18. Storage facilities					
					19. Transportation of seedlings					
					20. Marketing information					
					21. Chemical weed control					
					22. Black pod control					
					23. Seed selection					

24. How many years have you been in extension service:

    a. 1 to 2 b. 3 to 4

    c. 5 to 6 d. 7 to 8

    e. 9 and over

25. What level of schooling have you attained?

    a. 0-4 years b. 5-9 years

    c. 10-14 years

26. What level of training have you attained as an agricultural extension staff?

    a. 0-1 years b. 2-3 years

    c. 4-5 years d. 6 and above

27. How often do you get to go for training?

    a. Very often b. Often

    c. Seldom d. None

28. Would you like to go for more training to help you in your job with the farmers?

    a. Yes b. No

29. How long would you like to stay in the training?

    a. ½-1 year b. 1½-2 years

    c. 2½-3 years d. 3½-4 years

30. What major factor influences your selection of farmers to help?

    a. Friendly farmers b. Skilled farmers

    c. Rich farmers d. Other (Specify)

31. If you have a cocoa problem, how do you try to solve the problem?

    a. Talk to the Agricultural Extension Officer b. Talk to the farmer involved

    c. Talk to the local leaders d. Other (Specify)

32. Do you advise the farmers on other areas apart from cocoa business?

    a. Yes b. No

33. Which particular areas: (Specify)

34. Would you recommend to the farmers a type of training to help them in their life outside cocoa business?

    a. Yes b. No

35. What type of training or program would you recommend? (Be specific)

36. Would you like to help them run or set up such a program?

    a. Yes b. No

37. How often would you like to be involved in such a program?

    a. Very often b. Often

    c. Seldom d. None

38. How often do the culture and custom of the people hinder your job performance?

    a. Very often b. Often

    c. Seldom d. None

VITA 2

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Candidate for the Degree of

Master of Science

Thesis: PERCEPTIONS OF COCOA FARMERS AND EXTENSION AGENTS IN NIGERIA CONCERNING PRODUCTION PRACTICES WITH IMPLICATIONS FOR MUTUAL WORKING RELATIONSHIPS

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Ikom, Cross River State, Nigeria, July 4th, 1954, to John Obim Ndifon and Alice Nyaim. Married to Becky Bruce; three children - Ichory, Nsung, and Bofa.

Education: Graduated from Government Secondary School Ikom (now Comprehensive Secondary School Ikom) in June, 1972, received the London General Certificate of Education (O/L) in January, 1972; received the Bachelor of Science in Business Administration degree from Oklahoma State University in May, 1980; completed requirements for the Master of Science Degree at Oklahoma State University in July, 1981.

Professional Experience: Teacher, Holy Child Primary School, Ikom, 1968-70; Forest Assistant in Training (Extension Unit) NDE Pine and Yam Plantation, NDE, 1972-73; Acting Forest Extension Staff-Effraya Plantation and Corn Plot Last motor, 1973-74; Rural Science Master, Ikorodu High School, 1975.

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